

REMARKS

Claims 1-16 were pending when last examined. With this Response, Applicants have cancelled claims 1 and 4 without prejudice or disclaimer, amended claims 2, 5, and 7, and added new claims 17 and 18. All pending claims are shown in the detailed listing above.

Drawings

The Examiner states, "The drawings are objected to because in Fig. 2 the input REF 110 to comparator 158 is not different than the input to comparator 154."

The Applicants will provide corrected drawing figures prior to any issuance of this application, and respectfully request that this objection be held in abeyance until then.

Specification

The disclosure stands objected to because of informalities alleged by the Examiner.

The Examiner states, "Paragraph 35 lines 2 and 5 refer to oscillator 108 in Fig. 2. There is no reference to 108 in Fig. 2."

The term "oscillator 108" does not appear at the location in the specification alleged by the Examiner (i.e., paragraph 35, lines 2 and 6). However, this term does appear in paragraph 33, lines 3 and 6 of the specification. Applicants assume that these are the locations to which the Examiner meant to refer. Applicants have amended paragraph 33 of the specification at these locations to change the reference numeral for the term "oscillator" from "108" to "140," which is consistent with FIG. 2 of the drawings.

As such, Applicants respectfully request the Examiner to withdraw this objection to the specification.

The Examiner also states, "The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed." The

Examiner goes on to suggest the title of “Digital control of switching voltage regulators operated in discontinuous mode with multiple feedback error comparators providing information on the rate of change of the output voltage used to reduce output voltage droop.” Applicants respectfully disagree.

The title of the present Application is “Digital Control of Switching Voltage Regulators.” Such title *is* descriptive of Applicant’s invention as described and claimed, for example, in Claim 2 (as amended) which recites in pertinent part “A digital control system for voltage converters.” Moreover, the present title of the Application is more in line with the guidelines of the MPEP than the one suggested by the Examiner. In particular, regarding the title of an application, the MPEP states, “It should be brief but technically accurate and descriptive, preferably from two to seven words and may not contain more than 500 characters.” See MPEP § 608.01(b), ¶ 6.02. Applicants’ title is technically accurate and consists of six words, which is within the preferred range of the MPEP. On the other hand, the title suggested by the Examiner has 32 words total—i.e., over four times as many words as the maximum of the MPEP’s recited preferred range. As such, the Examiner’s objection to the title should be withdrawn.

Claim Rejections – 35 USC § 102

Claims 1, 3, 4, 6, 8-14 and 16 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Sutardja et al. (US Pub. No. 2004/0239300). Applicants respectfully traverse.

Applicants have cancelled claims 1 and 4 without prejudice or disclaimer, thereby rendering moot any rejection of these claims.

Claim 3 depends from claim 2 which, as discussed below, is now in condition for allowance. Claims 6 and 8 depend from claim 5 which, as also discussed below, is now in condition for allowance. Claim 16 depends from claim 15 which, as discussed below, is in condition for allowance. For at least these reasons, Applicants respectfully request that the

rejection of these claims under 35 U.S.C. § 102(e) be withdrawn and that claims 3, 6, 8, and 16 be allowed.

Claim 9 recites *inter alia*, “a duty cycle generator that utilizes the numerical value to alter the duty cycle of the analog circuitry; a first comparator that compares the output voltage to a reference voltage at a first rate; and a second comparator that compares the output voltage to the reference voltage at a second rate, wherein the numerical value is updated based upon a comparison at the first or second rate.” Contrary to the Examiner’s assertions, these limitations are not disclosed or taught by Sutardja et al.

The Examiner states that “Sutardja discloses...a first comparator (para 73 line 2 ‘regulated output is sensed and compared to a reference’) that compares the output voltage to a reference voltage at a first rate; and a second comparator (Fig. 10 456) that compares the output voltage to the reference voltage (Fig. 10 454) at a second rate, wherein the numerical value (Fig 27 ‘counter limit’) is based upon a comparison at the first or second rate (para 146 line 6-7 ‘control the count of the nominal duty cycle based on the outputs of the comparators’).” Applicants respectfully disagree.

What the Examiner has done is to piece together a number of disparate passages from Sutardja et al. in an attempt to mirror the recitations of Applicants’ claim 9. The portions and elements of Sutardja et al. to which the Examiner cites do not operate individually or in combination in the manner asserted by the Examiner. To begin, paragraph 73, line 2 of Sutardja et al. does not disclose any “first comparator that compares the output voltage to a reference voltage at a first rate.” Indeed, no rate is mentioned at all in this passage of Sutardja et al. Likewise, Fig. 10 of Sutardja et al. does not disclose any “second comparator that compares the output voltage to the reference voltage at a second rate.” Again, no rate is mentioned or suggested in Fig. 10 of Sutardja et al. Furthermore, since no rates are disclosed or suggested in the sections of Sutardja et al. cited by the Examiner, then Sutardja et al. also does not disclose any “comparison at the first or second rate” or any “numerical value [which] is updated based upon [such] a comparison” as also recited in claim 9. In addition,

the comparators identified by the Examiner in paragraph 6, lines 6-7 of Sutardja et al. are not the same comparators in Sutardja et al. which the Examiner identifies as being the claimed “first comparator” and “second comparator”; this is entirely inconsistent with Applicants’ claim 9. As such, the Sutardja et al. does not anticipate Applicants’ claim 9.

For at least the reasons discussed above, Applicants respectfully request that the rejection of Claim 9 under 35 U.S.C. § 102(e) be withdrawn and this claim be allowed. Furthermore, because Claims 10-14 depend from Claim 9 and include further limitations, the Applicants respectfully request that the rejection of these claims under 35 U.S.C. § 102(e) also be withdrawn and that Claims 10-14 be allowed.

Allowable Subject Matter

Applicants appreciate the Examiner’s indication of allowability for Claims 2, 5, 7, and 15.

Each of claims 2, 5, and 7 has rewritten in independent form and thus should not be in condition for allowance. Claim 15 when last examined was already in independent form.

New Claims

New claims 17 and 18 have been added. Applicant respectfully submits that the new claims are fully supported by the specification as filed, add no new matter, and are allowable.

CONCLUSION

Applicants respectfully request that the pending claims be allowed and the case passed to issue. Should the Examiner wish to discuss the Application, it is requested that the Examiner contact the undersigned at (415) 772-7428.

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

3/23/06

Date

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